IN THE CLAIMS:

1-32. (Canceled)

33. (Currently amended) A method of preserving isolated differentiated or undifferentiated human embryonic stem cells wherein the cells undergo vitrification.

34. (Original) A method according to claim 33 wherein the vitrification is Open Pulled Straw (OPS) vitrification.

35. (Canceled)

36. (Currently amended) A vitrified human embryonic stem cell line ~~as~~ prepared ~~in Example 6~~ according to the method of claim 33 or 34.

37. (Currently amended) A ~~cryopreserved~~ vitrified cell composition comprising human embryonic stem (hES) cells.

38. (Currently amended) A ~~cryopreserved~~ vitrified differentiated or undifferentiated hES cell prepared by the ~~process~~ method of claim 33.

39. (New) A method according to claim 33 wherein the cells undergo vitrification in a holding medium (VS1) including DMEM containing HEPES buffer, FBS, dimethylsulphoxide (DMSO) and ethylene glycol (EG).

40. (New) A method according to claim 33 wherein the cells undergo vitrification in a holding medium (VS2) including DMEM containing HEPES buffer, FBS, DMSO, EG and sucrose.

41. (New) A method according to claim 33 wherein the cells undergo vitrification by incubation in VS1 followed by VS2.

42. (New) A vitrification holding medium (VS1) for vitrification of undifferentiated hES cells comprising DMEM containing HEPES buffer, FBS, DMSO and EG.

43. (New) A vitrification holding medium of claim 42 comprising 10% DMSO and 10% EG.

44. (New) A vitrification holding medium (VS2) for vitrification of undifferentiated hES cells comprising DMEM containing HEPES buffer, FBS, DMSO, EG and sucrose.

45. (New) A vitrification holding medium of claim 44 containing 20% DMSO 20% EG and 0.5 M sucrose.